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Ephemeris of the Long Period Variable Stars for 1862. By N. R Pogson, Director of the Madras Observatory.

The initials in the last column indicate respectively, Messrs. Argelander, Baxendell, Krüger, Pogson, Schönfeld, and Winnecke.

Star.	Probable Mag.	Mean Place, 1861. R.A.	Mean Place, 1861. N.P.D.	Times of Maxima.	Authority.
		h m s	° ′		
T Piscium	9·5	0 24 46	76 14	April 24, Sept. 14	S.
α Cassiopeiæ	2·0	0 32 35	34 14	March 20, June 7, Aug. 25, Nov. 12	A.
S Piscium	9·0	1 10 15	81 49	Possibly in August. Very uncertain	—
R Piscium	7·5	1 23 25	87 50	Possibly in May. Uncertain ...	—
R Arietis	8·0	2 8 10	65 36	Jan. 15, July 17	B.
o Ceti	2·0	2 12 17	93 37	July 3	A.
R Tauri	8·0	4 20 38	80 9	May 7	W.
S Tauri	10·0	4 21 32	80 22	March 11	W.
R Orionis	9·0	4 51 22	82 5	June 19	W.
α Orionis	1·0	5 47 36	82 37	January and July. Uncertain ...	—
R Geminorum	7·3	6 58 56	67 5	Jan. 25	P.
R Can. Min.	8·0	7 1 0	79 46	April. Uncertain	—
S Can. Min.	7·5	7 25 7	81 23	July 23	W.
S Geminorum	9·2	7 34 38	66 13	August 14	P.
T Geminorum	8·9	7 40 54	65 55	May 13	P.
U Geminorum	9·1	7 46 48	67 38	Jan. 21, April 28, Aug. 2, Nov. 7	P.
R Cancri	6·0	8 8 51	77 51	January 17	B.
U Cancri	9·0	8 27 45	70 37	July 3	W.
S Hydræ	8·5	8 46 16	86 24	January 22, October 5 ...	W.
T Cancri	12·0	8 48 40	69 37	At minimum, December 26 ...	W.
T Hydræ	6·5	8 48 51	98 37	February 22, December 11 ...	W.
R Leonis	5·0	9 40 2	77 55	Oct. 13. Minimum (10·0) May 29	P.
R Urs. Maj.	7·0	10 34 41	20 29	April 29. Minima (13·0) Jan. 6, Nov. 4	P.
T Leonis	9·0	11 3 36	83 47	February 9, August 28 ...	W.
R Comæ	8·0	11 57 4	70 26	October 1	W.
R Virginis	6·5	12 31 24	82 14	Jan. 1, May 27, Oct. 19 ...	A.
S Urs. Maj.	7·5	12 37 48	28 8	April 10, Nov. 22. Minima (12) Jan. 2, Aug. 15	P.
U Virginis	7·5	12 44 0	83 41	July 28	W.
V Virginis	7·0	13 20 36	92 28	March 16, November 23 ...	P.
R Hydræ	4·0	13 22 4	112 33	Not until February 1863 ...	B.

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Star.	Probable Mag.	Mean Place, 1861. R.A.	N.P.D.	Times of Maxima.	Authority.
		h m s	° ′		
S Virginis	6·0	13 25 42	96 28	May 21. Minimum (11·3) Nov. 17	P.
R Boötis	8·0	14 31 1	62 39	February 16, September 29 ...	W.
S Serpentis	8·0	15 15 7	75 11	March 5	A.
R Coronæ	6·2	15 42 49	61 25	About November. Very irregular	B.
R Serpentis	6·5	15 44 15	74 26	August 29	A.
R Libræ	9·0	15 45 40	105 49	April. Uncertain	P.
R Herculis	8·5	15 59 56	71 15	Oct. 24	B. & W.
R Scorpii	9·0	16 9 19	112 35	April 22. Uncertain ...	P.
S Scorpii	9·5	16 9 20	112 33	April 19. Very irregular ...	—
S Ophiuchi	9·3	16 26 12	106 52	August 5	—
S Herculis	7·5	16 45 32	74 49	September 15	B.
R Ophiuchi	8·0	16 59 44	105 54	June 25	P.
α Herculis	3·0	17 8 16	75 27	Mar. 11, May 16, July 21, Sept. 26, Dec. 1	A.
T Herculis	7·9	18 3 48	59 0	March 16, August 23 ...	K.
R Scuti	5·0	18 40 1	95 50	March 21, May 31, Aug. 11, Oct. 26	A.
13 Lyræ	4·3	18 51 4	46 14	March 18, May 3, June 18, Aug. 3, Sept. 18, Nov. 3	B.
R Aquilæ	6·5	18 59 38	81 59	May 13	A.
R Sagittarii	8·2	19 8 28	109 33	May 19	P.
S Sagittarii	10·5	19 11 14	109 16	December. Very uncertain ...	P.
R Cygni	8·0	19 33 4	40 7	Nov. 14. Minimum (14·5) June 12	P.
χ Cygni	5·0	19 45 11	57 27	June 10	A.
R Capricorni	9·5	20 3 28	104 41	September 25	W.
R Sagittæ	8·4	20 7 40	73 42	Minima (10·5) May 6, July 16, Sept. 25, Dec. 5	B.
S Delphini	8·2	20 36 38	73 25	May 4	B.
U Capricorni	10·5	20 40 22	105 18	April. Uncertain	P.
R Vulpeculæ	8·0	20 58 10	66 44	March 8, July 16, Nov. 23 ...	W.
T Capricorni	9·0	21 14 13	105 45	July 26	S.
R Pegasi	8·5	22 59 37	80 14	April 28	A.
R Aquarii	7·0	23 37 15	106 3	June 28	—
R Cassiopeiæ	6·0	23 51 18	39 23	Nov. 15. Minimum (13) May 30	P.

The preceding Ephemeris has been hastily prepared, chiefly from the elements of variation employed for the last two years.

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Mr. Baxendell has as usual favoured me with the maxima of the stars bearing his initial. The minima of the Short Period Variable Stars shall follow by the next mail.

One star, S *Sagittarii,* was discovered at Dr. Lee's Observatory shortly before my departure from England, and has been re-observed here this year. Time forbids further details in this letter.

Madras Observatory, 1861, *Dec.* 28.

On the Stars R *Vulpeculæ and* U *Geminorum, and on an Appearance in Venus.* By G. Knott, Esq.

R *Vulpeculæ.* A few months ago I had the honour of submitting to the Astronomical Society a short paper on an unexpected *minimum* of this star; further observation enables me to report a *maximum,* mag. = 8·7, on or about the 31st December last. It will be seen that this result does not accord with the predictions of Mr. Pogson's valuable Ephemeris; by reference, however, to a paper by Dr. Winnecke, in No. 1224 of the *Astronomische Nachrichten,* it appears that the period is subject to considerable irregularity, for while two observed maxima in 1859 gave a period of 129 days, one of 147·35 days was found more satisfactorily to represent the earlier observations, including two by Piazzi in the beginning of the century. It would be premature on my part to say anything decidedly on this point, I will merely add that my own light-curve seems to favour the shorter period.

U *Geminorum.* This remarkable star was due at maximum on Jan. 21; my own observations show that the maximum actually occurred nineteen or twenty days earlier. On turning my Equatoreal to the spot on the evening of Jan. 3d, I found the star of the 9·4 mag., by the next evening it had fallen to 9·6, and on the 11th of the same month it shone as a star of the 11·2 mag. Bad weather and bright moonlight prevented further observation. Unfortunately the maximum was passed before my observations commenced, but we may probably assume the 1st or 2d of January as the date of its occurrence.

Readers of the *Monthly Notices* will remember an interesting paper by Mr. Pogson (*Monthly Notices,* vol. xx., p. 37) containing an account of a series of observations of this star by M. Goldschmidt in November 1859, from which, in combination with one of his own, he deduced a maximum on Nov. 12th, "full 27 days before the time indicated by computation." Starting from this date, and applying Mr. Pogson's period of 96·879 days, I find a maximum due on Dec. 25th, 1861, a result, which, compared with my own observations, seems to